

## RGLX Series High Pulse Energy Picosecond Lasers

[www.photonix.com](http://www.photonix.com)

Photonics Industries' RGLX Series picosecond lasers offer low pulse widths (< 25 ps), high pulse energies (up to 4 mJ), and high repetition rates (up to 5 kHz). With no separate utility module, the all-in-one (AIO) RGLX Series is a pioneering laser for research, especially fulfilling new and emerging requirements in laser ranging (SLR), and also offers industrial sectors the pulse energy, repetition rate, and convenient AIO package for integration into systems for efficient micro-processing and meso-processing.



### Applications

- Cutting, drilling, welding, scribing, marking, micro-structuring, micro and meso-scale material processing, processing difficult materials
- Satellite Laser Ranging (SLR), Laser Ranging Systems, Laser Guide Star Adaptive Optical Systems, Observatory Systems
- Pump Probe Spectroscopy, Time-Resolved Fluorescence Spectroscopy, Spectroscopy
- Pumping OPO Systems, Ti:Sapphire Systems, Ultrafast Amplifier Systems

### Features

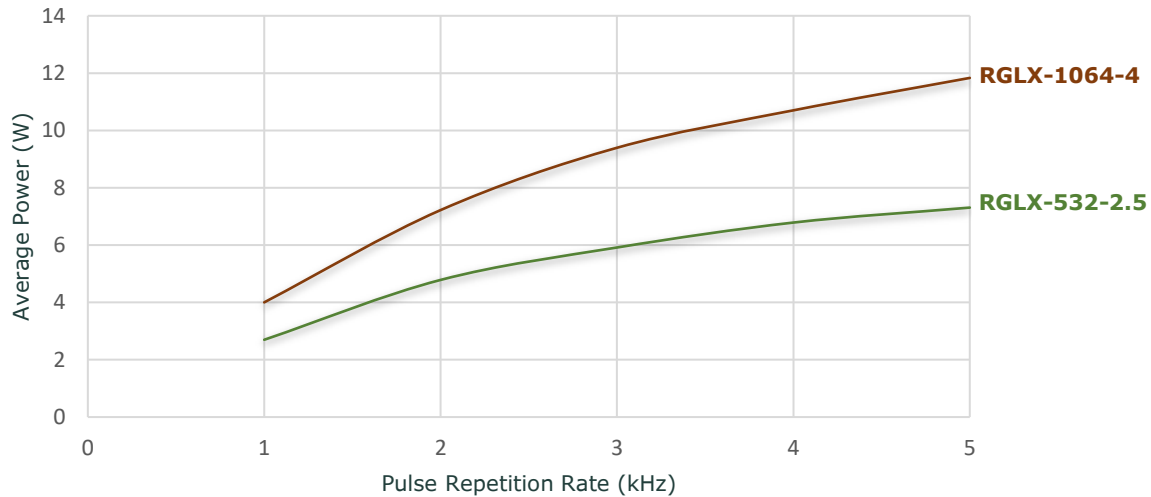
- High pulse energy ps laser  
Up to 4 mJ for IR, up to 2.5 mJ for Green
- Highest repetition rates in the market from a high pulse energy ps laser  
Single shot to 5 kHz  
High repetition rates enable laser ranging systems to achieve faster data acquisition
- Wide range of wavelengths:  
1064 nm, 532 nm, 355 nm
- New, compact, all-in-one (AIO) form factor  
No separate utility module needed
- Simplest, reliable, long-life design
- Perfect TEM00 beam:  
Typical M2 < 1.3
- Low loss beam-splitting and beam-shaping  
Split beams, flat-top beam profiles, and other customer-integrated beam splitting/shaping methods retain high mJ pulse energies for optimal micro- and meso-processing

Specifications – **RGLX Series High Pulse Energy Picosecond Lasers**, IR & GRN Models

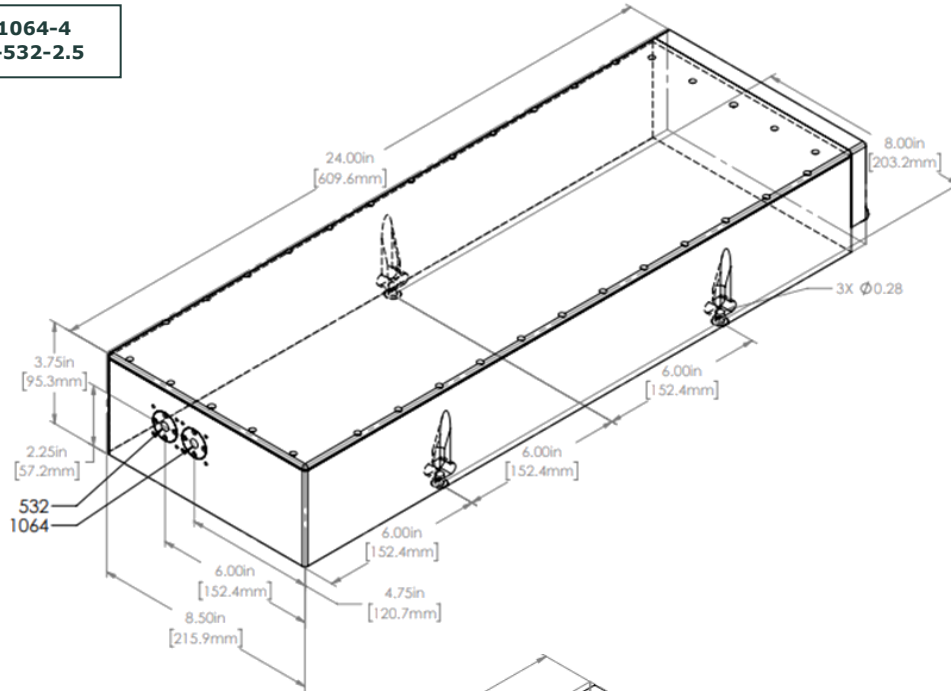
	RGLX-1064-2	RGLX-1064-4	RGLX-532-1.5	RGLX-532-2.5
<b>Beam and output specifications</b>				
Wavelength	1064 nm		532 nm	
Average power	2 W at 1 kHz	4 W at 1 kHz	1.5 W at 1 kHz	2.5 W at 1 kHz
Maximum pulse energy	2 mJ at 1 kHz	4 mJ at 1 kHz	1.5 mJ at 1 kHz	2.5 mJ at 1 kHz
Pulse width <sup>1</sup>	~30 ps			
Pulse repetition rate <sup>2</sup>	Single shot to 5 kHz			
Pulse-to-pulse stability	< 2% rms			
Long term power stability, 8h ± 1°C	< ±2%			
Beam spatial mode	TEM <sub>00</sub> M <sup>2</sup> < 1.3			
Beam pointing stability	< 50 μrad			
Beam output diameter, at exit	1.7 mm, nominal			
Beam ellipticity	< 10%			
<b>Operational specifications and system characteristics</b>				
Interface	RS232, Ethernet, Software GUI, External TTL Triggering			
Electrical requirement	100-240 V AC; or 32 V DC, 15 A			
Line frequency	50-60 Hz			
Climate	Ambient 15°C to 30°C (59°F to 86°F) Operating Range, Relative Humidity 90% Max., non-condensing			
Power consumption	< 400 W, excluding chiller			
Dimensions (LxWxH)	24 x 8.5 x 3.75 in			
Weight	~55 lbs			
Cooling system <sup>3</sup>	Closed-loop chiller			

1. Shorter pulse width available on request
2. Lower repetition rates, down to single shot, achieved by external triggering (EXT PRF)
3. Air-cooled option is available (RGLX-AC). Please contact us for more details.

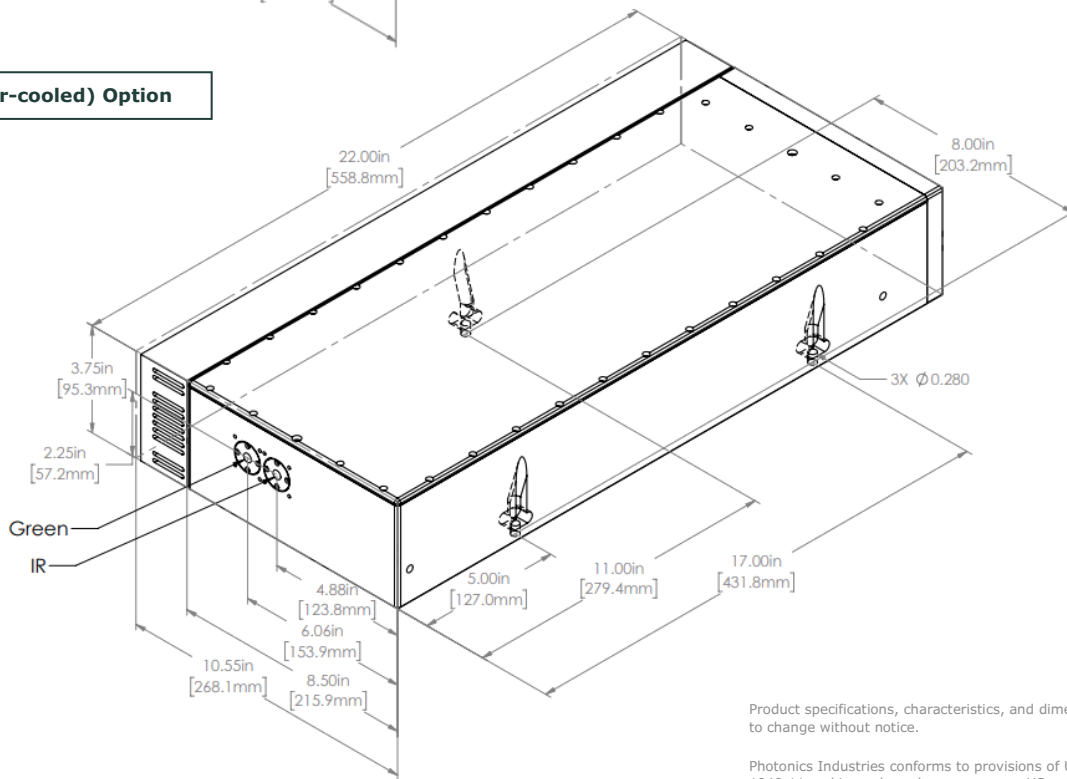
**Average power (W) as a function of pulse repetition rate (kHz)**



**RGLX-1064-2, RGLX-1064-4**  
**RGLX-532-1.5, RGLX-532-2.5**



**RGLX-AC (Air-cooled) Option**



Product specifications, characteristics, and dimensional drawings are subject to change without notice.

Photonics Industries conforms to provisions of US 21 CFR 1040.10 & 1040.11 and is made under one or more US patents listed below: 9,531,147, 8,817,831, 7,869,471, 7,346,092, 7,082,149, 7,079,557, 6,999,483, 6,980,574, 6,961,355, 6,842,293, 6,762,405, 6,690,692, 6,587,487, 6,584,134, 6,366,596, 6,356,578, 6,327,281, 6,246,707, 6,229,829, 6,108,356, 6,061,370, 6,028,620, 5,936,983, 5,898,717 and Pending Patents

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Photonics Industries International is the pioneer of intracavity harmonic lasers and is at the forefront of developing, manufacturing and marketing a wide range of nanosecond, sub-nanosecond, picosecond and femtosecond lasers for industrial, scientific, defense, and medical industries. Check out our products and see how we can help you apply our lasers to your needs.

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